

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application.

Listing of Claims:

1-9. (Canceled)

10. (Previously presented) A composition comprising an isolated bacterial strain that oxidizes ammonia to nitrite, wherein said bacterial strain comprises a nucleotide sequence set forth in SEQ ID NO:18.

11. (Original) The composition of claim 10 wherein the composition is in a form selected from the group consisting of liquid, frozen, freeze-dried and powdered.

12. (Original) The composition of claim 10, wherein the composition is included in a polymer.

13. (Original) The composition of claim 12, wherein the polymer is selected from the group consisting of acrylamide, alginate, carrageenan, and combinations thereof.

14-16. (Canceled)

17. (Currently amended) A composition comprising a concentrated bacterial strain that oxidizes ammonia to nitrite, wherein the 16S rDNA of the bacterial strain has a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:18, wherein hybridization of the 16S rDNA occurs under the following stringent conditions: hybridization in 20% to 30% formamide, 0.9 M NaCl, 0.01% sodium dodecyl sulphate, 20 mM Tris/HCl pH 7.4 at 46 °C, and washing with 120 mM to 215 mM NaCl, 5 mM EdTA, 0.01% sodium dodecyl sulphate, and 20 mM Tris/HCl at 48 °C.

18. (Previously presented) The composition of claim 17 wherein said bacterial strain has a 16S rDNA sequence which is identical to SEQ ID NO:18.

19. (Original) The composition of claim 17, further comprising a microorganism selected from

the group consisting of ammonia-oxidizing microorganisms, nitrite-oxidizing microorganisms, nitrate-reducing microorganisms, heterotrophic microorganisms, and combinations thereof.

20-21. (Canceled)

22. (Currently amended) An isolated nucleic acid consisting of: a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:18, ~~wherein the nucleic acid encodes function for oxidizing ammonia to nitrite~~ wherein hybridization to SEQ ID NO:18 occurs under the following stringent conditions: hybridization in 30% formamide, 0.9 M NaCl, 0.01% sodium dodecyl sulphate, 20 mM Tris/HCl pH 7.4 at 46 °C, and washing with 120 mM NaCl, 5 mM EdTA, 0.01% sodium dodecyl sulphate, and 20 mM Tris/HCl at 48 °C.

23. (Previously presented) The isolated nucleic acid of claim 22 wherein said sequence is identical to SEQ ID NO:18.

24-31. (Canceled)

32. (Currently amended) A composition comprising a bacterial strain that oxidizes ammonia to nitrite including a nucleotide sequence as set forth in SEQ ID NO:18 and at least one other bacterial strain that oxidizes ammonia to nitrite, wherein the at least one other bacterial strain has 16S rDNA including a nucleotide sequence independently selected from the group consisting of: a nucleotide sequence that has greater than 98% identity over the full length thereof to SEQ ID NO:3, a nucleotide sequence that has greater than 98% identity over the full length thereof to SEQ ID NO:4, a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:1, a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:2, a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:19 and a nucleotide sequence that has at least 96% identity over the full length thereof to SEQ ID NO:20, wherein hybridization of the 16S rDNA occurs under the following stringent conditions: hybridization in 20% to 30% formamide, 0.9 M NaCl, 0.01% sodium dodecyl sulphate, 20 mM Tris/HCl pH 7.4 at 46 °C, and washing with 120 mM to 215 mM NaCl, 5 mM EdTA, 0.01% sodium dodecyl sulphate, and 20 mM Tris/HCl at 48 °C.

33. (Previously presented) The composition of claim 32, said composition comprising a

bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:1, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:2, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:3, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:4, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:18, a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:19 and a bacterial strain with a 16S rDNA including a nucleotide sequence as set forth in SEQ ID NO:20.

34. (New) A composition comprising a bacterial strain that oxidizes ammonia to nitrite including a nucleotide sequence as set forth in SEQ ID NO:18 and at least one other bacterial strain that oxidizes ammonia to nitrite, wherein the at least one other bacterial strain has 16S rDNA including a nucleotide sequence independently selected from the group consisting of: a nucleotide sequence as set forth in SEQ ID NO:3, a nucleotide sequence as set forth in SEQ ID NO:4, a nucleotide sequence as set forth in SEQ ID NO:1, a nucleotide sequence as set forth in SEQ ID NO:2, a nucleotide sequence as set forth in SEQ ID NO:19 and a nucleotide sequence as set forth in SEQ ID NO:20.